

WHAT IS CLAIMED IS:

1. An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:
- 5 (a) a mature form of an amino acid sequence selected from the group consisting of SEQ ID NOs: 2, 4, 6, 8, and 10;
- 10 (b) a variant of a mature form an amino acid sequence selected from the group consisting of SEQ ID NOs: 2, 4, 6, 8, and 10, wherein one or more amino acid residues in said variant differs from the amino acid sequence of said mature form, provided that said variant differs in no more than 10% of the amino acid residues from the amino acid sequence of said mature form;
- 15 (c) an amino acid sequence comprising a sequence selected from the group consisting of SEQ ID NOs: 2, 4, 6, 8, and 10; and
- 20 (d) a variant of an amino acid sequence comprising a sequence selected from the group consisting of SEQ ID NOs: 2, 4, 6, 8 and 10, wherein one or more amino acid residues in said variant differs from the amino acid sequence of said mature form, provided that said variant differs in no more than 10% of amino acid residues from said amino acid sequence.
- 2 The polypeptide of claim 1, wherein said polypeptide comprises an amino acid sequence of a naturally-occurring allelic variant of an amino acid sequence selected from the group consisting of SEQ ID NOs: 2, 4, 6, 8, and 10.
- 25 3. The polypeptide of claim 2, wherein said allelic variant comprises an amino acid sequence that is the translation of a nucleic acid sequence differing by a single nucleotide from a nucleic acid sequence selected from the group consisting of SEQ ID NOs: 1, 3, 5, 7, and 9.
4. The polypeptide of claim 1, wherein the amino acid sequence of said variant comprises a conservative amino acid substitution.

5. An isolated nucleic acid molecule comprising a nucleic acid sequence encoding a polypeptide comprising an amino acid sequence selected from the group consisting of:

(a) a mature form of an amino acid sequence selected from the group consisting of SEQ ID NOs: 2, 4, 6, 8 and 10;

(b) a variant of a mature form of an amino acid sequence selected from the group consisting of SEQ ID NOs: 2, 4, 6, 8, and 10, wherein one or more amino acid residues in said variant differs from the amino acid sequence of said mature form, provided that said variant differs in no more than 10% of the amino acid residues from the amino acid sequence of said mature form;

(c) an amino acid sequence comprising a sequence selected from the group consisting of SEQ ID NOs: 2, 4, 6, 8, and 10;

(d) a variant of an amino acid sequence selected from the group consisting of SEQ ID NOs: 2, 4, 6, 8, and 10, wherein one or more amino acid residues in said variant differs from the amino acid sequence of said mature form, provided that said variant differs in no more than 10% of amino acid residues from said amino acid sequence;

(e) a nucleic acid fragment encoding at least a portion of a NOVX polypeptide comprising an amino acid sequence comprising a sequence selected from the group consisting of SEQ ID NOs: 2, 4, 6, 8, and 10, or a variant of said polypeptide, wherein one or more amino acid residues in said variant differs from the amino acid sequence of said mature form, provided that said variant differs in no more than 10% of amino acid residues from said amino acid sequence; and

(f) a nucleic acid molecule comprising the complement of (a), (b), (c), (d) or (e).

6. The nucleic acid molecule of claim 5, wherein the nucleic acid molecule comprises the nucleotide sequence of a naturally-occurring allelic nucleic acid variant.

7. The nucleic acid molecule of claim 5, wherein the nucleic acid molecule encodes a polypeptide comprising the amino acid sequence of a naturally-occurring polypeptide variant.

8. The nucleic acid molecule of claim 5, wherein the nucleic acid molecule differs by a single nucleotide from a nucleic acid sequence selected from the group consisting of SEQ ID NOs: 1, 3, 5, 7, and 9.
9. The nucleic acid molecule of claim 5, wherein said nucleic acid molecule comprises a nucleotide sequence selected from the group consisting of
- 5 (a) a nucleotide sequence selected from the group consisting of SEQ ID NOs: 1, 3, 5, 7, and 9;
- (b) a nucleotide sequence differing by one or more nucleotides from a nucleotide sequence selected from the group consisting of SEQ ID NOs: 1, 3, 5, 7, and 9, provided that no more than 10% of the nucleotides differ from said nucleotide sequence;
- 10 (c) a nucleic acid fragment of (a); and
- (d) a nucleic acid fragment of (b).
10. The nucleic acid molecule of claim 5, wherein said nucleic acid molecule hybridizes under stringent conditions to a nucleotide sequence selected from the group consisting of SEQ ID NOs: 1, 3, 5, 7, and 9, or a complement of said nucleotide sequence.
- 15 11. The nucleic acid molecule of claim 5, wherein the nucleic acid molecule comprises a nucleotide sequence selected from the group consisting of
- (a) a first nucleotide sequence comprising a coding sequence differing by one or more nucleotide sequences from a coding sequence encoding said amino acid sequence, provided that no more than 10% of the nucleotides in the coding sequence in said first nucleotide sequence differ from said coding sequence;
- 20 (b) an isolated second polynucleotide that is a complement of the first polynucleotide; and
- 25 (c) a nucleic acid fragment of (a) or (b).
12. A vector comprising the nucleic acid molecule of claim 11.
13. The vector of claim 12, further comprising a promoter operably linked to said nucleic acid molecule.

14. A cell comprising the vector of claim 12.
15. An antibody that immunospecifically-binds to the polypeptide of claim 1.
16. The antibody of claim 15, wherein said antibody is a monoclonal antibody.
17. The antibody of claim 15, wherein the antibody is a humanized antibody.
- 5 18. A method for determining the presence or amount of the polypeptide of claim 1 in a sample, the method comprising:
- (a) providing the sample;
 - (b) contacting the sample with an antibody that binds immunospecifically to the polypeptide; and
 - 10 (c) determining the presence or amount of antibody bound to said polypeptide,
- thereby determining the presence or amount of polypeptide in said sample.
19. A method for determining the presence or amount of the nucleic acid molecule of claim 5 in a sample, the method comprising:
- 15 (a) providing the sample;
 - (b) contacting the sample with a probe that binds to said nucleic acid molecule; and
 - (c) determining the presence or amount of the probe bound to said nucleic acid molecule,
- 20 thereby determining the presence or amount of the nucleic acid molecule in said sample.
20. A method of identifying an agent that binds to a polypeptide of claim 1, the method comprising:
- 25 (a) contacting said polypeptide with said agent; and
 - (b) determining whether said agent binds to said polypeptide.

21. A method for identifying an agent that modulates the expression or activity of the polypeptide of claim 1, the method comprising:

- (a) providing a cell expressing said polypeptide;
- (b) contacting the cell with said agent; and
- (c) determining whether the agent modulates expression or activity of said polypeptide,

whereby an alteration in expression or activity of said peptide indicates said agent modulates expression or activity of said polypeptide.

22. A method for modulating the activity of the polypeptide of claim 1, the method comprising contacting a cell sample expressing the polypeptide of said claim with a compound that binds to said polypeptide in an amount sufficient to modulate the activity of the polypeptide.

23. A method of treating or preventing a NOVX protein-associated disorder, said method comprising administering to a subject in which such treatment or prevention is desired the polypeptide of claim 1 in an amount sufficient to treat or prevent said NOVX protein-associated disorder in said subject.

24. The method of claim 23, wherein said subject is a human.

25. A method of treating or preventing a NOVX protein-associated disorder, said method comprising administering to a subject in which such treatment or prevention is desired the nucleic acid of claim 5 in an amount sufficient to treat or prevent said NOVX protein-associated disorder in said subject.

26. The method of claim 25, wherein said subject is a human.

27. A method of treating or preventing a NOVX protein-associated disorder, said method comprising administering to a subject in which such treatment or prevention is desired the antibody of claim 15 in an amount sufficient to treat or prevent said NOVX protein-associated disorder in said subject.

28. The method of claim 15, wherein the subject is a human.

29. A pharmaceutical composition comprising the polypeptide of claim 1 and a pharmaceutically-acceptable carrier.
30. A pharmaceutical composition comprising the nucleic acid molecule of claim 5 and a pharmaceutically-acceptable carrier.
- 5 31. A pharmaceutical composition comprising the antibody of claim 15 and a pharmaceutically-acceptable carrier.
32. A kit comprising in one or more containers, the pharmaceutical composition of claim 29.
- 10 33. A kit comprising in one or more containers, the pharmaceutical composition of claim 30.
34. A kit comprising in one or more containers, the pharmaceutical composition of claim 31.
- 15 35. A method for determining the presence of or predisposition to a disease associated with altered levels of the polypeptide of claim 1 in a first mammalian subject, the method comprising:
- 20 (a) measuring the level of expression of the polypeptide in a sample from the first mammalian subject; and
- (b) comparing the amount of said polypeptide in the sample of step (a) to the amount of the polypeptide present in a control sample from a second mammalian subject known not to have, or not to be predisposed to, said disease,
- wherein an alteration in the expression level of the polypeptide in the first subject as compared to the control sample indicates the presence of or predisposition to said disease.

36. A method for determining the presence of or predisposition to a disease associated with altered levels of the nucleic acid molecule of claim 5 in a first mammalian subject, the method comprising:

(a) measuring the amount of the nucleic acid in a sample from the first mammalian subject; and

(b) comparing the amount of said nucleic acid in the sample of step (a) to the amount of the nucleic acid present in a control sample from a second mammalian subject known not to have or not be predisposed to, the disease;

wherein an alteration in the level of the nucleic acid in the first subject as compared to the control sample indicates the presence of or predisposition to the disease.

37. A method of treating a pathological state in a mammal, the method comprising administering to the mammal a polypeptide in an amount that is sufficient to alleviate the pathological state, wherein the polypeptide is a polypeptide having an amino acid sequence at least 95% identical to a polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOs: 2, 4, 6, 8, 10, or 12, or a biologically active fragment thereof.

38. A method of treating a pathological state in a mammal, the method comprising administering to the mammal the antibody of claim 15 in an amount sufficient to alleviate said pathological state.

39. A method of treating a NOVX protein-related disorder in a mammal, the method comprising administering to the mammal at least one agent which modulates the expression or activity of a NOVX protein.

40. The method of claim 39, wherein said NOVX protein is a novel human transmembrane protein (NOVTRAN), and wherein said disorder is a cell signaling disorder selected from the group consisting of cancer, an immune response disorder, a hematopoietic disorder, and a neurodegenerative disorder.

41. The method of claim 39, wherein said NOVX protein is a novel human neuromedin protein (NOVNEUR), and wherein said disorder is selected from the group consisting of an endocrine disorder, a muscle disorder, a neurologic disorder, central nervous system cancer, breast cancer, colon cancer, ovarian cancer, kidney cancer, prostate cancer, and thyroid cancer.

42. The method of claim 39, wherein said NOVX protein is a novel human gonadotropin protein (NOVGON), and wherein said disorder is selected from the group consisting of a reproductive development disorder, a metabolic function disorder, and melanoma.

43. The method of claim 39, wherein said NOVX protein is a novel human interleukin-1 receptor antagonist protein (NOVINTRA), and wherein said disorder is selected from the group consisting of a bone metabolism or structure disorder, and inflammatory response disorder, an immune regulation disorder, septic shock, stroke, diabetes, arthritis, and cancer.

44. The method of claim 39, wherein said agent is selected from the group consisting of an antibody which immunospecifically binds to a NOVX polypeptide, an antibody which immunospecifically binds to a nucleic acid sequence encoding a NOVX protein, and an antisense nucleic acid sequence complementary to a nucleic acid sequence encoding a NOVX protein.

45. A method for determining the presence of or predisposition to lung disease associated with altered levels of an interleukin-1 epsilon (IL-1 epsilon) polypeptide in a first mammalian subject, the method comprising:

(a) measuring the level of expression of the polypeptide in a sample from the first mammalian subject; and

(b) comparing the amount of said polypeptide in the sample of step (a) to the amount of the polypeptide present in a control sample from a second mammalian subject known not to have, or not to be predisposed to, said disease,

wherein an alteration in the expression level of the polypeptide in the first subject as compared to the control sample indicates the presence of or predisposition to said disease.

5 46. The method of claim 45, wherein said lung disease is selected from the group consisting of lung cancer, asthma, emphysema, allergic lung irritation, and lung inflammation.

10 47. The method of claim 45, wherein said polypeptide comprises the amino acid sequence of SEQ ID NO: 12.

15 48. A method for determining the presence of or predisposition to a lung disease associated with altered levels of a nucleic acid molecule encoding human IL-1 epsilon in a first mammalian subject, the method comprising:

(a) measuring the amount of the nucleic acid in a sample from the first mammalian subject; and

(b) comparing the amount of said nucleic acid in the sample of step (a) to the amount of the nucleic acid present in a control sample from a second mammalian subject known not to have or not be predisposed to, the disease;

20 wherein an alteration in the level of the nucleic acid in the first subject as compared to the control sample indicates the presence of or predisposition to the disease.

25 49. The method of claim 48, wherein said lung disease is selected from the group consisting of lung cancer, asthma, emphysema, allergic lung irritation, and lung inflammation.

50. The method of claim 49, wherein said nucleic acid molecule comprises the nucleic acid sequence of SEQ ID NO: 11.

51. A method of treating a lung disease in a mammal, the method comprising administering to the mammal at least one agent which modulates the expression or activity of a human IL-1 epsilon protein.
52. The method of claim 51, wherein said lung disease is selected from the group consisting of lung cancer, asthma, emphysema, allergic lung irritation, and lung inflammation.
53. The method of claim 52, wherein said IL-1 epsilon protein comprises the amino acid sequence of SEQ ID NO: 12.
54. The method of claim 53, wherein said agent is selected from the group consisting of an antibody which immunospecifically binds to said IL-1 epsilon protein, an antibody which immunospecifically binds to a nucleic acid sequence encoding said IL-1 epsilon protein, and an antisense nucleic acid sequence complementary to a nucleic acid sequence encoding said IL-1 epsilon protein.
55. The method of claim 54, wherein said nucleic acid sequence comprises the nucleic acid sequence of SEQ ID NO: 11.

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